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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,419	01/20/2004	Takahiko Iriyama	VX012307	7769
21369	7590	09/18/2007		
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DR. SUITE 101 RESTON, VA 20191			EXAMINER SHEEHAN, JOHN P	
			ART UNIT 1742	PAPER NUMBER
			MAIL DATE 09/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/759,419	Applicant(s) IRIYAMA ET AL.	
	Examiner John P. Sheehan	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 7, 14 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 14 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 29 to 31 are objected to because of the following informalities:
 - I. The content of alloy component "M²" is not defined in the claim. It is questioned whether the claims should recite that the content of "M²" in the claimed alloy is 0.1 to 1.0 at.% as disclosed in the specification at page 9, lines 3 and 4. Appropriate correction is required.

Claim Interpretation

2. Each of claims 1, 7, 14 recites "up to 30 at. % of Sm is substituted with a member selected from the group consisting of Ce and a rare earth other than Ce" and "up to 35 at.% of Fe is substituted with Co" (emphasis added by the Examiner). The term "up to" encompasses zero. In view of this, claims 1, 7 and 14 do not require the presence of either Co or an additional rare earth element. In like manner, each of claims 26 to 31 defines the subscripts "a" and "b" as encompassing zero, therefore claims 26 to 31 do not require the presence of Co or an additional rare earth.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 7, 14 and 26 to 31 are rejected under 35 U.S.C. 103(a) as obvious over Pinkerton et al. (Pinkerton, US Patent No. 5,395,459, cited in the IDS submitted January 20, 2004)

Pinkerton teaches a Sm-Fe-N powdered magnetic material having the TbCu₇ crystal structure (column 6, lines 40 to 45), a thickness of less than 200 microns, desirably 20 to 120 microns and preferably 30 to 40 microns (column 1, lines 59 to 62) which encompasses the powder thickness recited in applicants' claims 1, 26 and 29. Pinkerton teaches the use of the disclosed powder in bond magnets (column 1, lines 35 to 40) as recited in applicants' claims 14, 28 and 31. Pinkerton teaches that the crystal size of the alloy is desirably 20 nm to 500 nm (0.5 μ m) which is encompassed by the crystal grain size of 10 nm to 0.5 μ m recited in applicants' claims 7, 27 and 30. Pinkerton's Sm-Fe-N alloy is manufactured by quenching a melt of an Sm-Fe alloy to form a ribbon, comminuting the alloy ribbon and nitriding the resulting alloy powder (column 1, line 45 to column 2, line 10). Pinkerton also teaches a specific example of an alloy composition and process that is encompassed by applicants' disclosed method of making the instantly claimed alloy (compare Pinkerton's Example 1 and applicants' disclosure, page 6, lines 17 to 28). Pinkerton teaches that the disclosed magnet has a coercivity of at least 10,000 Oe (10 kOe) which overlaps the coercivity "7 kOe or higher" recited in the instant claims. Pinkerton also teaches that the Sm-Fe-N alloy has the

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composition $\text{Sm}_2\text{Fe}_{17}\text{N}_x$ wherein x is 2 or more (column 2, line 21). When x has a value in the range of 2 to 4.75 the resulting alloy has the following composition;

Sm	9.5 to 20 at%
Fe	71.6 to 81 at%
N	9.5 to 20 at%.

Which is encompassed the composition recited in the instant claims. Therefore, the alloy composition taught by Pinkerton overlaps the alloy composition recited in the instant claims.

The claims and Pinkerton differ in that Pinkerton does not teach the exact same nitrogen content as recited in the instant claims but rather a nitrogen content that overlaps the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the alloy proportions taught by Pinkerton overlap the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages”, In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Response to Arguments

5. Applicants' response submitted September 6, 2007 has overcome the rejection based on Fukuno.

6. Applicant's arguments filed September 6, 2007 regarding Pinkerton have been fully considered but they are not persuasive.

Applicants' argument that Pinkerton is silent with respect to the nitrogen content of the disclosed Sm-Fe-N alloy is not persuasive. Pinkerton teaches that the Sm-Fe-N alloy has the composition $\text{Sm}_2\text{Fe}_{17}\text{N}_x$ wherein x is 2 or more (column 2, line 21). When x has a value in the range of 2 to 4.75 the resulting alloy has the following composition;

Sm	9.5 to 20 at%
Fe	71.6 to 81 at%
N	9.5 to 20 at%.

Which is encompassed the composition recited in the instant claims. Therefore, the alloy composition taught by Pinkerton overlaps the alloy composition recited in the instant claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps